Hewlett Packard Enterprise

What makes Hybrid HPC cloud the next big thing in technology?

HPC is trending—and how

From mapping the human genome and modeling the universe to creating complex deep neural networks and designing artificial intelligence models, high-performance computing (HPC) has taken the world by storm. Consider its potential ROI: $463 per dollar invested (revenue growth) and $44 per dollar of profit invested.[1]

Why is it the favorite boardroom buzzword?

- Unlocks innovative data-driven computing workloads such as high-performance data analytics (HPDA) and artificial intelligence/deep learning (AI/DL)
- Solves complex challenges across verticals

Manufacturing—Computer-aided engineering (CAE) models, supply chain management, and predictive maintenance

Life sciences and health—Drug discovery, clinical trials, and personalized medicine

Oil and gas—Seismic processing, reservoir simulation, and production optimization

Financial services—Risk, treasury, and customer analytics

The CIO's top 3 challenges to implementing HPC

Rethink the data center strategy: From traditional data centers to unified, scalable data center operations, combining existing tools with new data center technologies

Bring in more agility: Leverage built-to-purpose IaaS and PaaS technologies inherited from the cloud

Enable less exposure to growing up-front investments: Implement models that can reduce up-front investments and accelerate deployment

Navigate the road to exascale computing with Hybrid HPC cloud

Leverages cloud-based options to augment on-premises HPC capabilities

Offers choice of deployment options

Helps overcome limitations of public clouds while retaining the benefits—bringing unprecedented levels of flexibility, automation, and economics to HPC

Extends seamlessly to on-premises HPC systems with a flexible private cloud infrastructure (on-premises or off-premises) including IaaS and PaaS features

The value drivers of Hybrid HPC cloud

HPC broader market (servers, storage, software, and service) will most likely expand at a 7.1% CAGR to more than $39.2 billion in 2023, up from $27.8 billion in 2018.[2] Here's why.

Reduces TCO for HPC workflows—private cloud systems can be precisely configured to maximize performance.
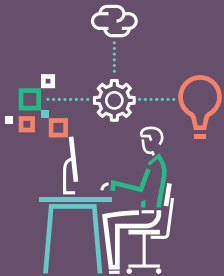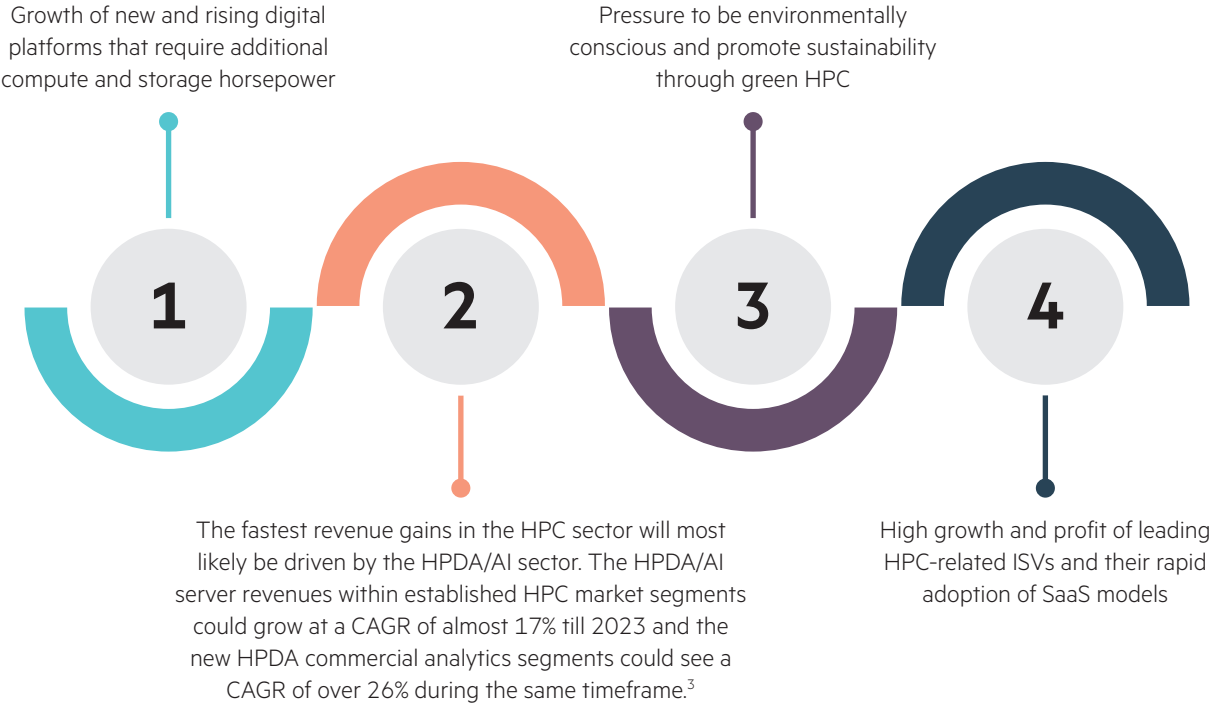
Enhances security and compliance to protect highly sensitive information and workloads using a purpose-built HPC multitenancy as a core part of the HPC infrastructure.

Delivers higher value PaaS/SaaS capabilities to build, customize, and deploy HPC workflows.

Flexible deployment options for your evolving needs

On-premises data center—entire HPC infrastructure is on-premises

HPC private cloud on-premises—converts on-premises data center to a private cloud

Using Tier-1 public cloud providers including HPC-specific technologies—public cloud that works across a broad range of general-purpose workloads

HPC off-premises—possibly managed services and/or private cloud

4 reasons why Hybrid HPC cloud adoption is soaring to new heights

Growth of new and rising digital platforms that require additional compute and storage horsepower

Pressure to be environmentally conscious and promote sustainability through green HPC

1

2

3

4

The fastest revenue gains in the HPC sector will most likely be driven by the HPDA/AI sector. The HPDA/AI server revenues within established HPC market segments could grow at a CAGR of almost 17% till 2023 and the new HPDA commercial analytics segments could see a CAGR of over 26% during the same timeframe.[3]

High growth and profit of leading HPC-related ISVs and their rapid adoption of SaaS models

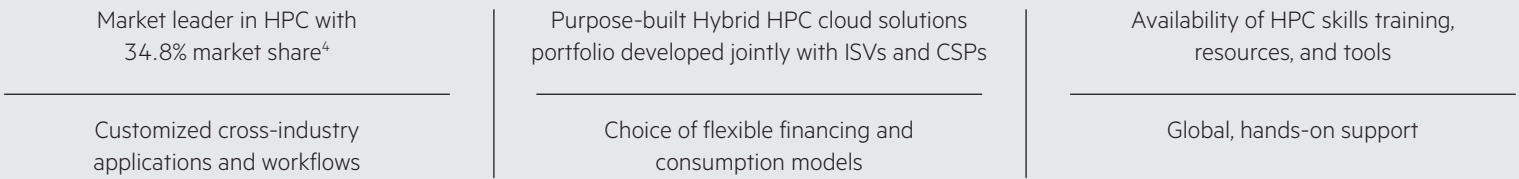## HPE Hybrid HPC cloud—the right mix to power your HPC workloads

A comprehensive portfolio of Hybrid HPC cloud components—based on the innovative foundational technologies from Intel®—comprising data center options delivered by the Partner Ready for Service Providers (PRSP) program and co-location partners, IaaS and PaaS options, and a consumption-based model with HPE GreenLake Flex Capacity, a key building block of the HPE Hybrid HPC cloud offering.

Two brands turned their stories around with HPE Hybrid HPC cloud

Siemens AG transforms its IT infrastructure with HPE GreenLake Flex Capacity.

HudsonAlpha accelerates its search to cure insidious diseases with HPE Synergy solutions.

HPE delivers the hybrid experience to a T

Market leader in HPC with 34.8% market share[4]

Purpose-built Hybrid HPC cloud solutions portfolio developed jointly with ISVs and CSPs

Availability of HPC skills training, resources, and tools

Customized cross-industry applications and workflows

Choice of flexible financing and consumption models

Global, hands-on support

Explore Hybrid HPC cloud the HPE way. Read the **white paper**.

[1] **HPC Market Update from Hyperion**, April 2019

[2,3] Market Forecast—Worldwide HPC Broader Market Forecast Update, 2018–2023, Hyperion Research, June 2019

[4] A Vendor Shares View of the 2018 HPC Market, HPC Research, May 2019